PORT ACCESSIBILITY DATABASE

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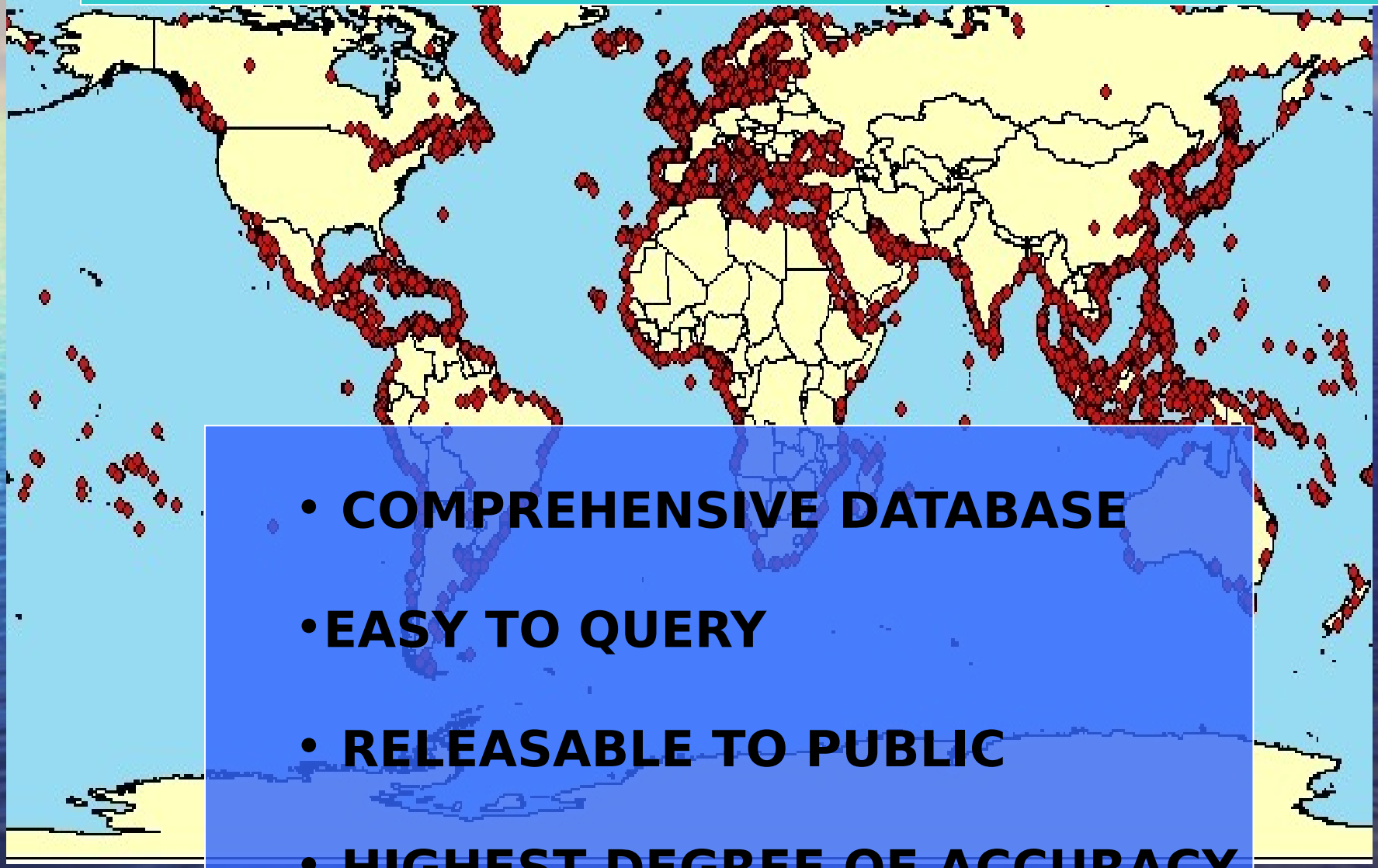
PORT ACCESSIBILITY DATABASE

REASONS TO CONDUCT THE STUDY:

1. TSV SOURCE SELECTION PURPOSES
2. TSV EFFECTIVENESS ANALYSIS
3. RPE ACCESSIBILITY ANALYSIS

ORIGINAL GOALS OF THE DATABASE



- COMPREHENSIVE DATABASE
- EASY TO QUERY
- RELEASABLE TO PUBLIC
- HIGHEST DEGREE OF ACCURACY

Data sources

- Source of majority of port information is DIA's Modernized Integrated Database (MIDB). Selected port data elements are unclassified.

- Lloyd's Fairplay Ports Guide will be used to supplement some missing data elements.

- 4,798 maritime port facilities included in database. US ports are not included.

- Information on 12,721 berths are included in database.

- Port accessibility would be determined by evaluating general port characteristics.

PORT ACCESSIBILITY DATA ELEMENTS

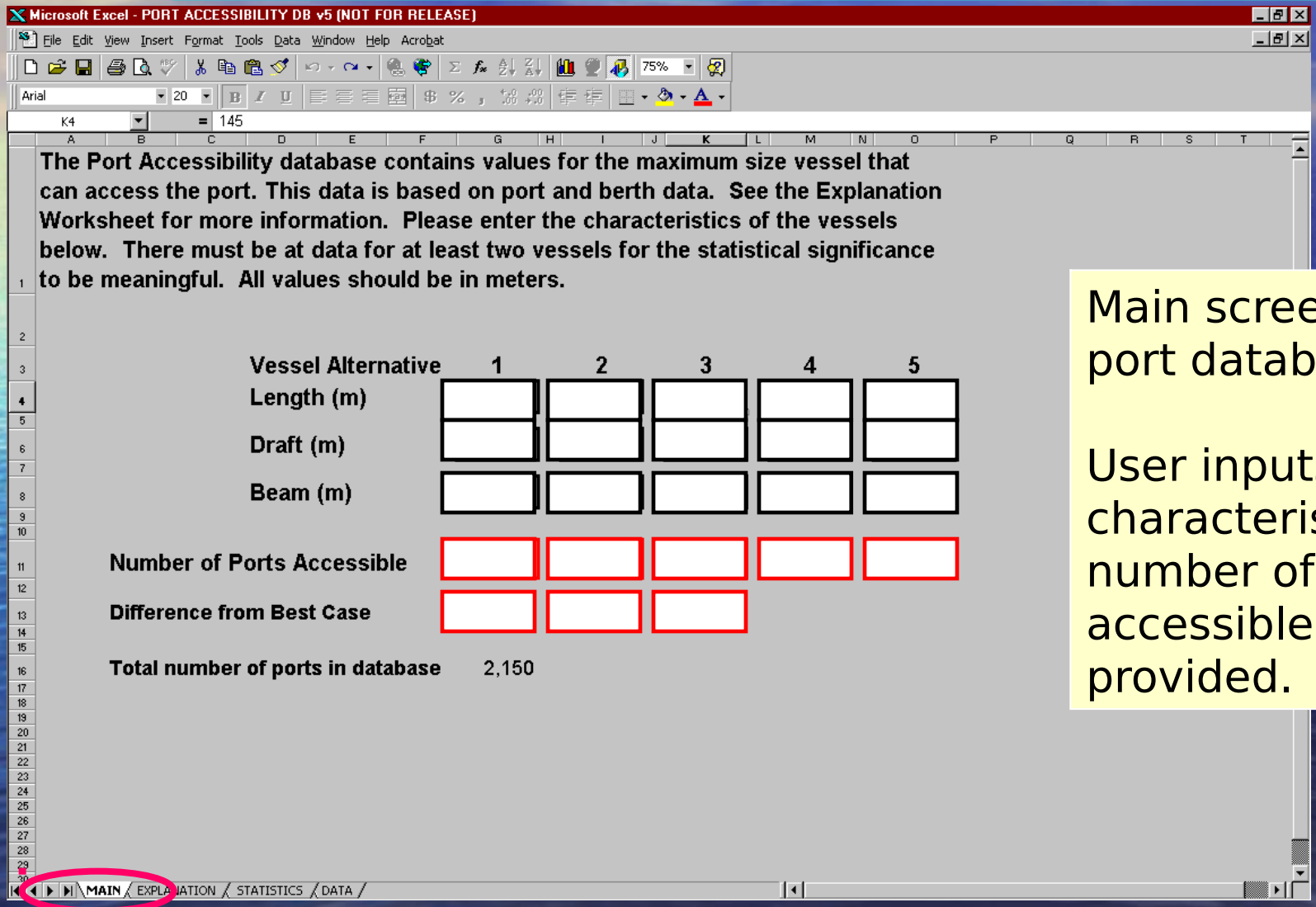
Port Name
Country
Latitude and Longitude
Primary and Secondary Function of po
Controlling Depth
Max Depth
Harbor Type
Turn Basin Depth
Turn Basin Diameter
Tidal Range
Tidal Range Max
Berth Name
- Primary and Secondary Function of berth
- ***Berth Length***
- Apron Width
- ***Depth Alongside Minimum***
- ***Depth Alongside Maximum***

Channel Width
Channel Depth
Max Vessel Size (Lloyd's Fairplay Ports Guide)

Italicized data indicate primary elements for port accessibility evaluation.

Other elements may be removed from final database if they are not required.

PORT DATABASE USER INTERFACE
(MAIN SCREEN)


Microsoft Excel - PORT ACCESSIBILITY DB v5 (NOT FOR RELEASE)
File Edit View Insert Format Tools Data Window Help Acrobat
Arial 20
K4 = 145
The Port Accessibility database contains values for the maximum size vessel that can access the port. This data is based on port and berth data. See the Explanation Worksheet for more information. Please enter the characteristics of the vessels below. There must be at data for at least two vessels for the statistical significance to be meaningful. All values should be in meters.
Vessel Alternative 1 2 3 4 5
Length (m)
Draft (m)
Beam (m)
Number of Ports Accessible
Difference from Best Case
Total number of ports in database 2,150
MAIN EXPLANATION STATISTICS DATA

Main screen of port database.

User inputs vessel characteristics and number of ports accessible is provided.

PORT ACCESSIBILITY DATABASE

WEIGHTING OF DATABASE CRITERA TO MEET PROCUREMENT GOALS

- VISIBILITY AND ACCURACY ARE MORE IMPORTANT THAN COMPREHENSIVENESS.
- TRACEABILITY MUST BE A KEY ELEMENT OF DATABASE.
- USE ONLY LLOYDS/FAIRPLAY SUPPLIED DATA FOR VISIBILI AND TO KEEP ANY POSSIBLE GOVERNMENT SUBJECTIVITY OUT OF THE ANALYSIS.

BACK TO THE DRAWING BOARD!

NEW METHODOLOGY

TWO APPROACHES FOLLOWED BY STATISTICAL ANALYSIS OF APPROACHES

1. The Maximum Vessel Characteristics Database is based on Lloyd's Fairplay Ports and Terminal Guide maximum vessel characteristics data for individual ports. This database provides maximum length, draft, and beam information for 984 ports.

2. The Port Accessibility Database database augments the previous database by using berth length, depth alongside, turning basin depth and diameter, and channel width and depth to assess individual port accessibility characteristics. There are 2,078 ports in this database.

…AFTER THE ANALYSIS:

There was not a statistically significant difference between the results of an illustrative example using three potential TSV designs when using the Maximum Vessel Characteristic Database.

There was a statistically significant difference in results in the comparison of port accessibility between the three illustrative vessel designs when using the Port Accessibility Database.

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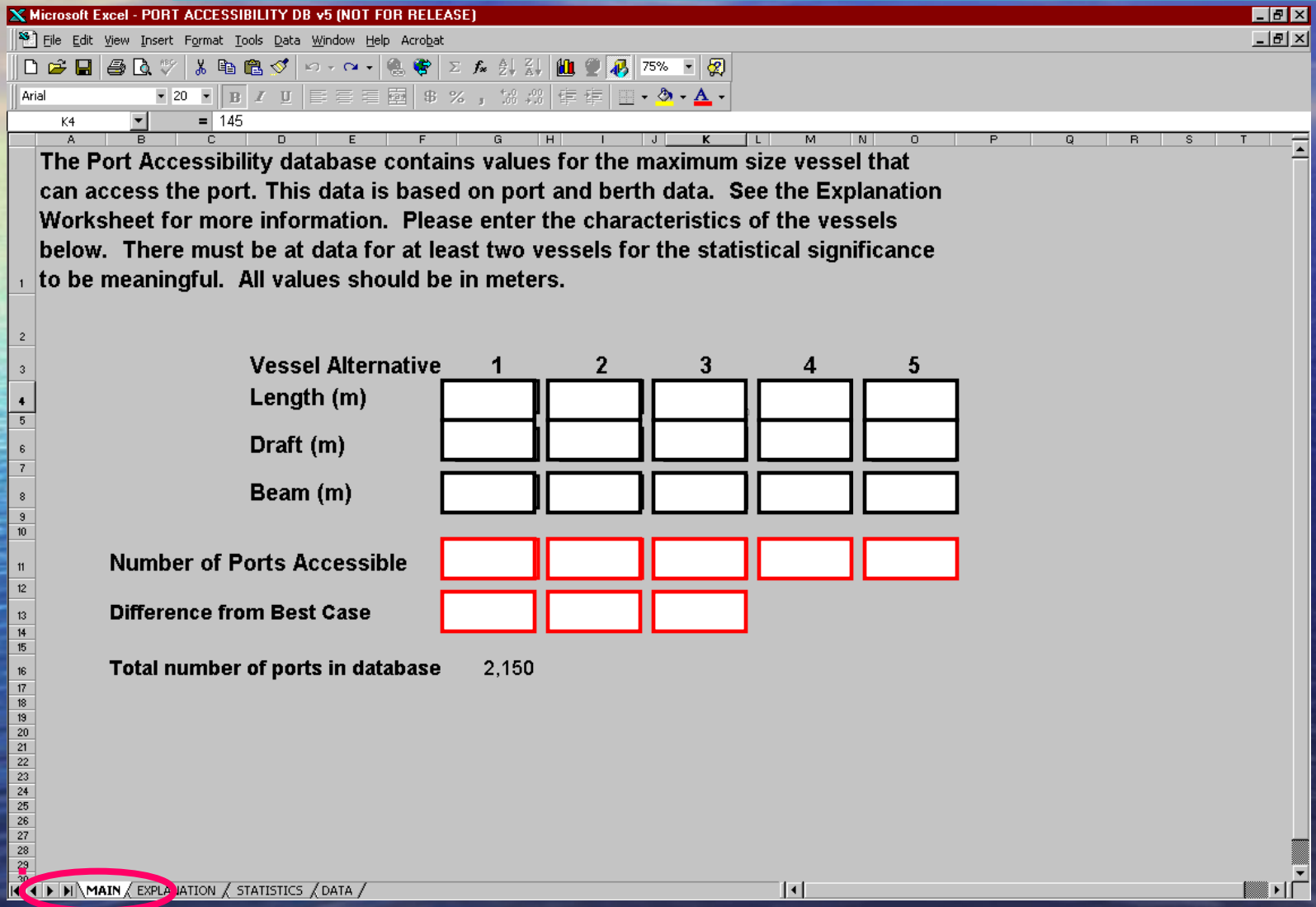
(MAIN SCREEN)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MAIN EXPLANATION STATISTICS DATA

CONCLUSION

- Both port databases provide user with an analysis of the accessibility of many ports with no subjectivity involved.

- Port Accessibility Database can provide differences in port accessibility for different vessel types and the results are expected to be statistically significant.

- For sample vessels, the differences were statistically significant, but the difference in port accessibility is actually minimal when considering the distribution of the ports that are not accessible to one vessel type.

- Differences in the number of ports accessible is one method to evaluate differences, however, the distribution of these ports should also be considered.